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Dated 11 May 2001

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1. Your reference

2. Patent application number
*(The Patent Office will fill in this part)***0010928.0**

- 5 MAY 2000

3. Full name, address and postcode of the or of each applicant *(underline all surnames)***Pace Micro Technology Plc**Victoria Road
Saltaire
Shipley
BD18 3LF

U.K.

7588569001

Patents ADP number *(if you know it)*

If the applicant is a corporate body, give the country/state of its incorporation

4. Title of the invention

Improvements to Communications Device5. Name of your agent *(if you have one)***Bailey Walsh & Co.***"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)*5, York Place
Leeds
LS1 2SDPatents ADP number *(if you know it)*

224001

6. If you are declaring priority from one or more earlier patent applications, give the and the date of filing of the or of each of these earlier applications and *(if you know it)* the or each application number

Country

Priority application number
*(if you know it)*Date of filing
(day / month / years)

7. If this application is divided or otherwise derived from an earlier UK application, the earlier application

Number of earlier application

Date of filing
*(day / month / years)*8. Is a statement of inventorship and of right to grant of a patent required in support of this request? *(Answer "Yes" if:*

Yes

- a) *any applicant named in part 3 is not an inventor, or*
- b) *there is an inventor who is not named as an applicant, or*
- c) *any named applicant is a corporate body*

See note (d)

9. Enter the number of sheets for any of the following items you are filing with this form.
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Continuation sheets of this form	
Description	6
Claim(s)	
Abstract	
Drawing(s)	2

-
10. If you are also filing any of the following, state how many of each item.

Priority Documents	
Translations of priority documents	
Statement of inventorship and right to grant of a patent (<i>Patents Form 7/77</i>)	
Request for preliminary examination and search (<i>Patents Form 9/77</i>)	
Request for substantive examination (<i>Patents Form 10/77</i>)	
Any other documents (<i>Please specify</i>)	

-
11. I/We request the grant of a patent on the basis of this application

Signature	Date
	04.05.00
12. Name and daytime telephone number of person to contact in the United Kingdom	G Wood 0113 2433824

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Notes

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Improvements to Communications Device

The invention which is the subject of this application relates to an improvement in a communications device and, in particular to a device of the type which includes a memory and capacity to have information or data input to the memory, retain the same and allow for the selective output or transfer of the information or data from the device to a remote location or other device.

In one form of the device there is provided a means for allowing the ability for a user in their premises to compile a list of data such as data relating to products for a shopping list and to later transmit the data via a communication link to a supplier or supplies of the goods represented by the data and which supplier can then subsequently supply the goods. Thus, there is no need for the user to actually attend the retailers premises. Furthermore, the retailer can download data to the device to allow the production of adverts, or other information to the user via the device. It is also envisaged that in one embodiment the device is compatible with and used in conjunction with a broadcast data receiver of the type provided with a means to receive data broadcast from a remote location via satellite, cable and/or terrestrial broadcast systems and which receiver is also provided with means to allow the sending and receiving of data via a communications link such as by connection to a telecommunications network.

It is envisaged that this form of device will be used extensively by users due to the time savings, convenience and other benefits but, inevitably there will be periods of time during which the device will not be in direct use for the intended purpose by the user. In these periods of time it is envisaged that the device will be retained in a holder or cradle and, during said time a power source such as a

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battery, or batteries, in the same can be charged via charging means in the cradle.

However, apart from the charging function, there is little use currently made of the device when in the cradle and, when one appreciates that the device will be located in the premises, typically in a frequently used area such as the kitchen, the aim of the present invention is to provide the device with means to allow the same to be of practical benefit to the user, even when mounted in the cradle.

In a first aspect of the invention there is provided a device which allows for the input of data, the processing of data, storage of same in the device and selected communication of said data to a remote location either directly via a communications link or via a broadcast data receiver and then via a communications link, said device provided for location in a holder and characterised in that the said device includes therein processing means to allow audio data received from a remote location to be decoded and an audio service provided.

In one embodiment, when the device is provided in engagement with the holder, in addition to connection between the power cell in the device and power charger, there is provided a connection between audio reproduction means in the device and at least one speaker provided in the holder. This therefore means that the audio data which is decoded in the device, can be provided to allow the generation of audio via the at least one speaker in the holder so as to be heard by persons in the vicinity of the device without the need for headphones or other apparatus to be physically connected to the holder and/or device.

Typically the holder will also include an amplifier to allow the audio to be amplified sufficiently for generation via the speaker.

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Typically, a power supply to the holder to allow the recharging of a power cell of the device will also be used to power the speaker and amplifier.

The audio data which is decoded and generated may, for example, be a radio station channel or a selected one of a number of radio station channels which are received via receiving means provided in the device; may be, or may include, advertising material which has previously been received by the device via a broadcast data receiver, stored and then subsequently can be replayed from the device when the device is mounted in the holder.

Specific embodiments of the device will now be described with reference to the accompanying drawings, wherein:-

Figure 1 illustrates one embodiment of a device as referred to in the invention in an in use position; and

Figure 2 illustrates the device of Figure 1 in position in a holder in a stored condition.

Referring firstly to Figure 1, there is illustrated a device according to the invention in one embodiment. The device 2 includes a housing in which is encased a processing means which can include a memory for the storage of data which is input into the device, processing means to allow the data which is input to be stored in an appropriate manner, further processing and decoding means which allows data which is received from a remote location in an encoded format to be decoded and then processed, and a power cell which, typically is rechargeable and which is provided to allow the device to be used independently of a holder or mains power supply.

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The device is provided to allow the input of data which can be in a number of forms such as, for example, the device may be provided with a barcode reader which allows the device to be placed in the vicinity of barcodes on products, and by reading the barcode, data relating to the product is input into the device and stored. There may be provided a keypad 4 and "pen" 5 as shown, which allows a user to input data into the device by typing in appropriate codes, words or the like and/or touching the display screen 6 with the pen to select displayed functions and typically the screen 6 provides information to the user with respect to the operation of the device.

The device also includes a means of receiving data from a remote location such as, for example, an aerial which would allow for example radio broadcasts to be received and tuning means can be provided on the device to allow the user to tune to a particular transmission frequency. Alternatively, or in addition, the device is provided to allow connection with a broadcast data receiver, not shown, and which connection can be achieved via a cable connection. The broadcast data receiver is typically provided in the premises to allow the reception of broadcast data from a remote location and, from said data, which is typically transmitted via any of satellite, cable or terrestrial systems, a range of television and radio programmes can be made available for selection by the user. In addition the broadcast data receiver typically includes a further communications link, typically a telecommunications link, to a remote telecommunications network and the device, in a preferred embodiment, is provided to utilise this telecommunications link by connecting and communicating with the broadcast data receiver.

Thus, in use, it is envisaged that in one embodiment the device 2 can be held in the hand by the user and separated from a holder for the same or a broadcast data receiver or, as shown in Figure 1 can be used in an in use position mounted in the holder 10.. The user

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can then input and/or access the data which they require, such as for example, data indicating those products which they wish to purchase from a particular retail outlet, and they may do so as they move around the house, while they are out of the house and so on. In any case, the data which is input is stored and, when needed to use a communications link, typically via a broadcast receiver, they can connect the device to the same and download the data which has been input to the retailer from whom they would wish the products represented by the data to be obtained and supplied. In due course, the retailer can then provide the ordered products and without the need for the user to actually visit the retail outlet if they so wish.

When not in use, it is envisaged that the device will be held in the holder 10 as shown in Figure 2 and, when held in the holder, the power cell of the device can be recharged via connection between a recharger provided in the holder and the device. Thus, the holder can be provided with a mains power supply to allow the recharging to take place. In accordance with the invention, the holder is further provided with at least one speaker 12 and an amplification means, not shown.

When the device is held in the holder, a data communications link is formed between the device and the holder which allows data from the device which represents an audio signal, to pass to the amplification means and hence the speaker 12. This allows the device and holder to have functionality, even when the device itself is regarded as being out of use. The device in this mode can be tuned to a particular frequency to receive a radio signal and the encoded data representing that signal can be decoded, processed and transmitted to the user via the speaker 12 in the holder 10.

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Alternatively, audio data may be input to the device when the same is in use with the broadcast data receiver and the data is automatically recovered from the memory when the device is placed into the holder so that said audio data can then be generated. Yet further, when communication is made with a remote source, data, which can be both video and audio data, can be transmitted to the device and again the same can be accessed when the device is positioned in the holder, and in this embodiment it is envisaged that the display screen of the device will be used to generate the video data and the speaker in the holder is used to generate the audio data to the user, and it is envisaged that this will be of particular use for advertising material to display the same to the user via the device.

It is envisaged that the audio data decoding system will allow the device to have a wireless radio or MP3 capability and the use of the same in conjunction with the holder allows the capabilities to be fully exploited. In addition to the speaker or speakers, connection means 14 may be provided to allow headphones or other audio devices to be connected thereto.

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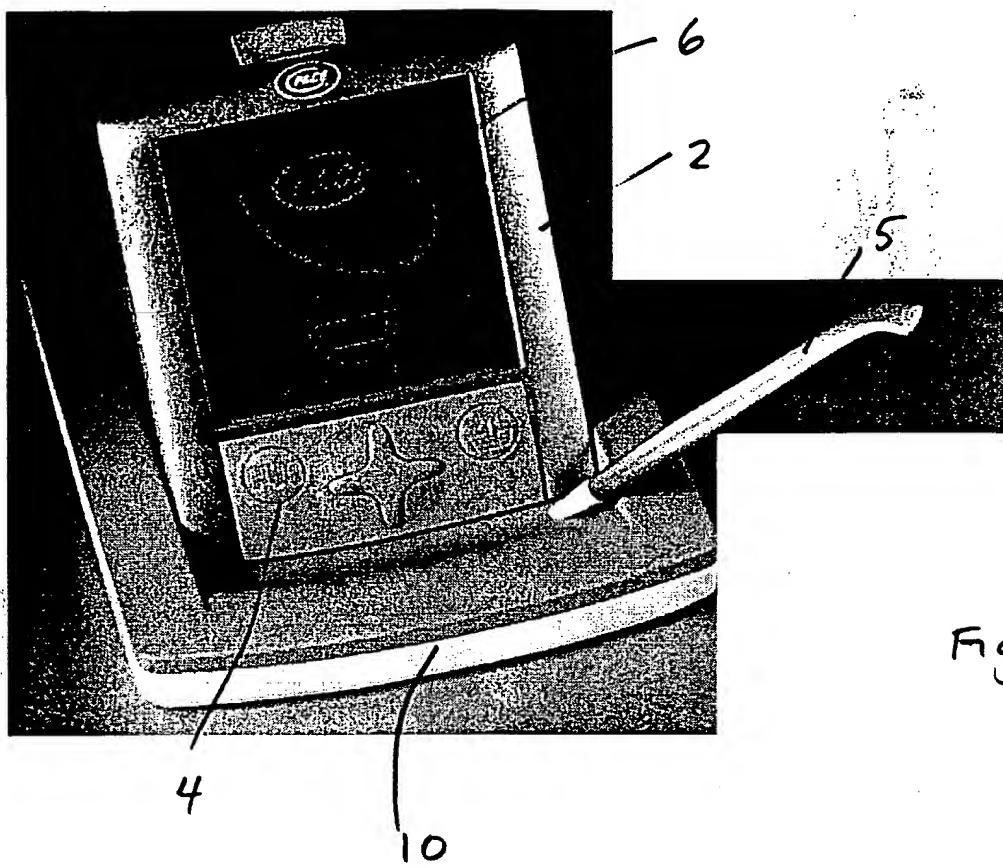


Figure 1

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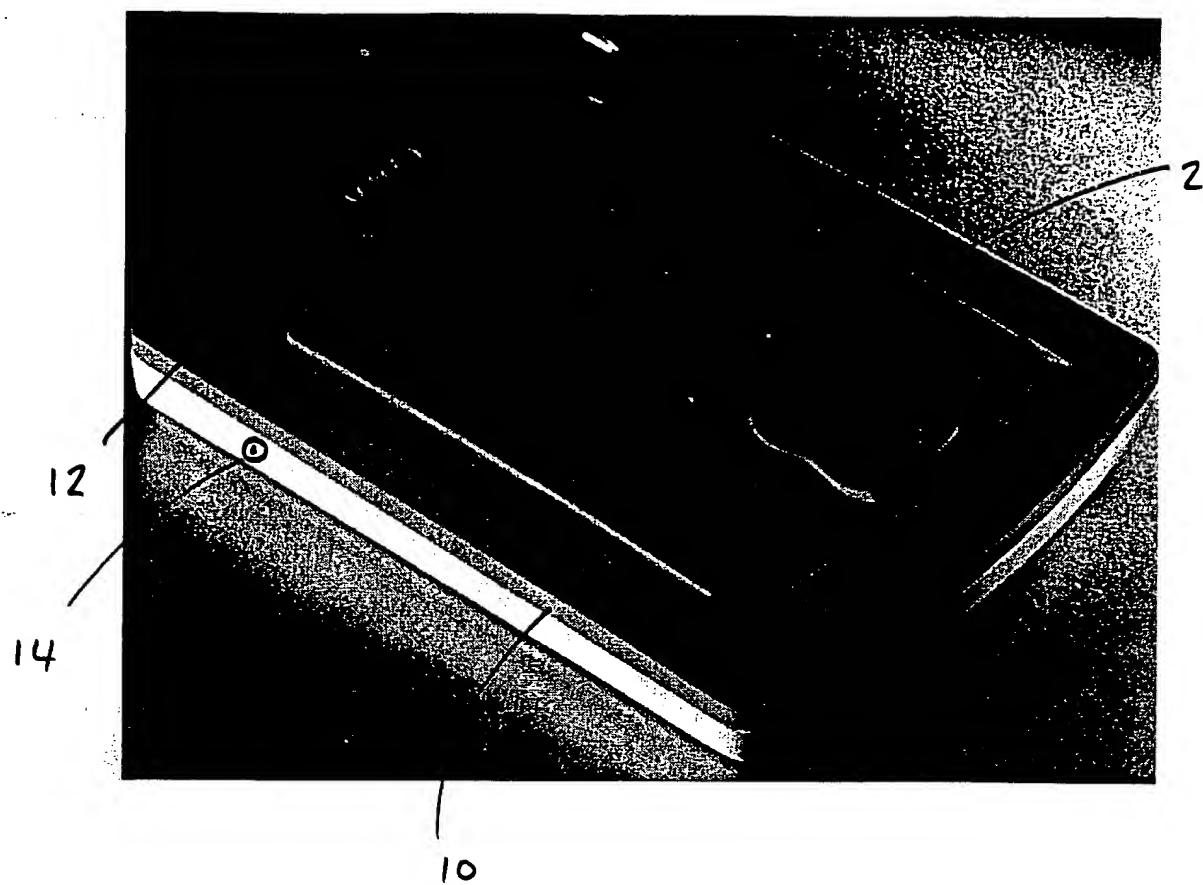


Figure 2

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